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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,634	08/06/2003	Rowland Saunders	GEMS8081.174	1633

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EXAMINER

KAO, CHIH CHENG G

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/604,634

Applicant(s)

SAUNDERS ET AL.

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-19 and 21-25 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 12-19 and 21-25 is/are allowed.
6) ☒ Claim(s) 1-4, 6-8, 10 and 11 is/are rejected.
7) ☒ Claim(s) 5 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 06 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hansen (US Patent 3407300).
2. Regarding claim 1, Hansen discloses a method comprising the steps of forming a core of base material, wherein the core includes a cylindrical rod (figs. 1 and 2, #14), and applying a tapered layer of x-ray attenuating material (fig. 1, #17 or fig. 3, #39) to the core (fig. 1, #14).
3. Regarding claims 2-4, Hansen further discloses placing a cast (fig. 1, #17) circumferentially around the core (fig. 1, #14), wherein the cast (fig. 1, #17) has an inner surface (fig. 1, inner surface of #17) creating varying degrees of thickness circumferentially around the core (fig. 1, #14), and further comprising the steps of placing the cast (fig. 1, #17) circumferentially around the core (fig. 1, #14) such that a void of varying thickness (fig. 1, #20) is created between an outer surface of the core (fig. 1, #14) and an inner surface of the cast (fig. 1, #17) and filling the void with the attenuating material (fig. 3, #39).

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4. Regarding claims 6-8, Hansen further discloses wherein the attenuating material is at least one of an attenuating alloy and an attenuating epoxy, wherein the attenuating material is tungsten (col. 4, lines 53-57), and further comprising the step of affixing a thin layer of tungsten (fig. 1, #17, and col. 4, lines 53-57) to the core (fig. 1, #14) and then machining the thin layer to have a varying thickness (col. 4, lines 60-64).

5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Toth et al. (US Patent 5644614).

Toth et al. discloses a method comprising the steps of forming a core of base material, wherein the core includes a cylindrical rod (fig. 8, #110a and 110b), and applying a tapered layer of x-ray attenuating material (fig. 8, #102) to the core (fig. 8, #110a and 110b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen as applied to claim 1 above, and further in view of Tybinkowski et al. (US Patent 6556657).

Hansen discloses a method as recited above.

However, Hansen fails to disclose wherein a base material includes stainless steel.

Tybinkowski et al. teaches wherein a base material includes stainless steel (col. 3, lines 4-5).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Hansen with the stainless steel of Tybinkowski et al., since it is within the general skill of a worker in the art to select a known material on the basis of its suitability. One would be motivated to make such a modification for using materials that are easier to machine (col. 3, lines 3-5) or construct as implied from Tybinkowski et al.

7. Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glenn et al. (US Patent 6672773) in view of Ishiharada et al. (US Patent 5692088).

Glenn et al. discloses a method comprising forming a core of base material (fig. 3, #50), wherein the core includes a cylindrical rod (col. 3, lines 22-23), and applying a tapered layer of material (fig. 3, defined by #48) to the core (fig. 3, #50).

However, Glenn et al. fails to disclose sputtering a layer of x-ray attenuating material to a core.

Ishiharada et al. teaches sputtering (col. 9, lines 19-21) a layer of x-ray attenuating material (fig. 3, #5) to a core (fig. 3, #3).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to incorporate the method of Glenn et al. with the sputtering of Ishiharada et al., since one would be motivated to make such a modification for better protection (col. 9, lines 5-7) as shown by Ishiharada et al.

Allowable Subject Matter

8. Claims 12-19 and 21-25 contain allowable subject matter. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and all intervening claims. The following is a statement of reasons for the indication of allowable subject matter.

9. Regarding claims 5 and 21, prior art fails to disclose or fairly suggest a method of manufacturing a collimator mandrel for a CT imaging system, including the step of allowing attenuating material to cure and then removing a cast, in combination with all the limitations in each respective claim, all respective intervening claims, and the respective base claim. Claims 22-25 contain allowable subject matter by virtue of their dependency.

10. Regarding claim 12, prior art fails to disclose or fairly suggest a CT collimator mandrel including the mandrel formed by shaping a bulk of supporting material into a core, positioning the core in a cast such that a non-uniform void is created between an outer surface of the core and an inner surface of the case, placing attenuating material into the void, and removing the cast upon curing of the attenuating material, in combination with all the limitations in the claim. Claims 13-15 contain allowable subject matter by virtue of their dependency.

11. Regarding claim 16, prior art fails to disclose or fairly suggest a process of constructing a mandrel for a CT imaging system including the step of affixing a pivot stud to each end of a cylindrical rod to support connection of the rod to an eccentrics assembly, in combination with

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all the limitations in the claim. Claims 17-19 contain allowable subject matter by virtue of their dependency.

Response to Arguments

12. Applicant's arguments with respect to claims 1-4, 6-8, 10, and 11 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (571) 272-2492. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER